

REMARKS

Applicant respectfully requests reconsideration of this application in view of the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in substantially the same order in which the corresponding issues were raised in the Office Action.

Status of the Claims

Claims 1-25 are pending. No claims are amended. No claims are canceled. No claims are added. No new matter has been added.

Summary of the Office Action

Claims 14, 19, and 21 stand objected to as depending from a rejected independent claim, but would be allowable if rewritten in independent form to include all intervening claim limitations.

Claims 1-13, 15-18, 20, and 22-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Application Admitted Prior Art (hereinafter "AAPA") in view of U.S. Patent No. 6,970,454 to Purcell et al. (hereinafter "Purcell").

Response to Objections

The title of the invention stands objected to because it is not descriptive. In particular, the Office Action states that a new title is required that is clearly indicative of the invention to which the claims are directed. Applicant respectfully submits that the title is descriptive as it currently. Given that the title is descriptive, Applicant respectfully requests that the objection to the title be withdrawn. If the Examiner believes another title would be more descriptive if the claimed invention, Applicant is willing to consider a suggested title recommended by the Examiner.

Response to Rejections under 35 U.S.C. § 103(a)

The Office Action rejected claims 1-13, 15-18, 20, and 22-25 under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Purcell. Applicant respectfully requests withdrawal of these rejections because the combination of cited references fails

to teach or suggest all of the limitations of the claims. Additionally, the Office Action fails to provide a proper motivation to combine the cited references.

CLAIMS 1-6

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Purcell. Applicant respectfully submits that claim 1 is patentable over the combination of cited references because the combination does not teach or suggest all of the limitations of the claim. Claim 1 recites:

A method, comprising:

identifying one or more initiating network resources that present a transaction on a first cycle;

filtering out presented transactions from the arbitration process destined to target network resources that are currently not available to service a transaction;

implementing an arbitration process among the remaining presented transactions to select a presented transaction from an initiating network resource to an available target network resource that wins the arbitration; and

configuring segments of the pathways in an interconnect in the next cycle to establish a connection between the initiating network resource and the available target network resource that won the arbitration. (Emphasis added).

In support of the rejection, the Office Action states, in part:

In regard to claims 1, 7, 11, . . . AAPA do not specifically disclose . . . configuring segments of the pathways in an interconnect in the next cycle to establish a connection between the initiating network resource and the available target network resource that won the arbitration. However Purcell et al. disclose . . . **configuring segments of the pathways in an interconnect in the next cycle (see col. 24, lines 23-64) to establish a connection between the initiating network resource and the available target network resource that won the arbitration (see col. 25, lines 36-44)**. Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Purcell et al. within the system of AAPA because it would **reduce the delay time in processing the transaction requests**. Office Action, December 16, 2005, pp. 2-3 (sic all) (emphasis added).

Applicant respectfully disagrees with the Office Action's characterization of the prior art because the cited combination of prior art fails to teach or suggest all of the limitations of the claim. In particular, AAPA and Purcell, either alone or in combination, do not teach or suggest configuring segments of the pathways in an interconnect in the

next cycle to establish a connection between the initiating network resource and the available target network resource that won the arbitration. Additionally, the Office Action fails to provide a motivation to combine the references.

AAPA is taken from the background section of the present application. Although the Office Action states that AAPA discloses the limitation of configuring, the Office Action subsequently correctly recognizes that AAPA does not teach configuring segments of the pathways in an interconnect. Office Action, December 16, 2005, p. 3. Given that the Office Action later purports that Purcell discloses the same limitation, and the background of the present application does not disclose such limitation, it appears that the former of the conflicting assertions should be ignored. Therefore, for purposes of this response, Applicant has only considered the portions of the Office Action which state that AAPA does not disclose the limitation of configuring segments of the pathways in an interconnect.

Purcell is directed to interconnecting multiple processors with multiple shared memories. Purcell, col. 1, lines 7-9. A memory controller controls a memory track, which includes multiple memory banks. Purcell, Fig. 17. The memory controller is coupled to the memory banks via a memory bus. Purcell, col. 23, lines 58-67. Although the memory banks may receive individual signals, the memory bus is only capable of transmitting one signal at a time. Purcell, col. 25, lines 10-12. However, as depicted in Figure 17, Purcell does not teach or suggest configuring the memory bus in any way. Purcell merely teaches independently sending signals to the memory banks at different times. One conventional way to achieve this functionality is to simply send the signal to all memory banks at the same time, without regard to which path the signal might actually take because the signal travels along all paths at the same time. Purcell does not disclose another way of sending the signals from the memory controller to the memory banks.

Moreover, the paragraphs cited by the Office Action do not disclose or address configuring the memory bus. Rather, the first reference (col. 24, lines 23-64) merely describes how signals may be interleaved on the memory bus. Purcell, Fig. 18. However, interleaving signals over time on a single bus is not the same as configuring segments of pathways in an interconnect. The second reference (col. 25, lines 36-44) merely describes indicating which memory banks are available, but does not address configuring segments

of pathways in an interconnect. Therefore, Purcell fails to teach or suggest configuring the memory bus or segments of pathways in an interconnect.

In contrast, claim 1 recites “configuring segments of the pathways in an interconnect in the next cycle to establish a connection between the initiating network resource and the available target network resource that won the arbitration.” For the reasons stated above, AAPA and Purcell, either alone or in combination, fail to teach or suggest all of the limitations of the claim. In particular, the cited references do not teach or suggest configuring segments of the pathways in an interconnect in the next cycle to establish a connection between the initiating network resource and the available target network resource that won the arbitration.

Even if arguing the combination of cited references were to disclose all of the limitations of the claim, the Office Action does not provide a proper motivation to combine the references. It is improper for the Office Action to use impermissible hindsight in establishing the motivation to combine the references. The Office Action merely purports that the advantage from combining AAPA and Purcell would be to “reduce the delay time in processing the transaction requests.” Office Action, December 16, 2005, p. 3. In fact, the cited prior art does not provide such a motivation. In particular, Purcell is silent as to potentially combining the teachings of Purcell with AAPA or deriving any benefit from such combination. Although the Office Action fails to provide a source for the purported motivation, it appears that the Office Action simply referred to the present application to derive the purported motivation. Given that the Office Action’s reliance on the present application to establish a motivation or suggestion to combine is impermissible, the Office Action fails to provide a proper motivation or suggestion to combine the Purcell and AAPA.

Given that the cited references fail to teach or suggest all of the limitations of the claim, Applicant respectfully submits that claim 1 is patentable over the cited references. Moreover, the claim is patentable over the cited references because there is the Office Action fails to establish a motivation to combine the references. Accordingly, Applicant requests that the rejection of claim 1 under 35 U.S.C. § 103(a) be withdrawn.

Given that claims 2-6 depend from independent claim 1, which is patentable over the cited references, Applicant respectfully submits that dependent claims 2-6 are also

patentable over the cited references. Accordingly, Applicant requests that the rejection of claims 2-6 under 35 U.S.C. § 103(a) be withdrawn.

CLAIMS 7-10

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Purcell. Applicant respectfully submits that claim 7 is patentable over the combination of cited references because the combination does not teach or suggest all of the limitations of the claim. Claim 7 recites:

An apparatus, comprising:

means for identifying one or more initiating network resources that present a transaction on a first cycle;

means for filtering out presented transactions from the arbitration process destined to target network resources that are currently not available to service a transaction;

means for implementing an arbitration process among the remaining presented transactions to select a presented transaction from an initiating network resource to an available target network resource that wins the arbitration; and

means for configuring segments of the pathways in an interconnect in the next cycle to establish a connection between the initiating network resource and the available target network resource that won the arbitration.

(Emphasis added).

In support of the rejection, the Office Action relies on the same statements reproduced above.

Applicant respectfully disagrees with the Office Action's characterization of the prior art, as explained above, and submits that the cited combination of prior art fails to teach or suggest all of the limitations of the claim. In particular, AAPA and Purcell, either alone or in combination, do not teach or suggest means for configuring segments of the pathways in an interconnect in the next cycle to establish a connection between the initiating network resource and the available target network resource that won the arbitration. Additionally, the Office Action fails to provide a motivation to combine the references. Nevertheless, even though the prior art does not teach or suggest all of the limitations of the claim and the Office Action fails to establish a motivation to combine the references, claim 7 is independent of claim 1 and the scope of each of these claims is

independent of each other and only determined by the limitations of each claim individually.

Given that the cited references fail to teach or suggest all of the limitations of the claim, Applicant respectfully submits that claim 7 is patentable over the cited references. Moreover, the claim is patentable over the cited references because there is the Office Action fails to establish a motivation to combine the references. Accordingly, Applicant requests that the rejection of claim 7 under 35 U.S.C. § 103(a) be withdrawn.

Given that claims 8-10 depend from independent claim 7, which is patentable over the cited references, Applicant respectfully submits that dependent claims 8-10 are also patentable over the cited references. Accordingly, Applicant requests that the rejection of claims 8-10 under 35 U.S.C. § 103(a) be withdrawn.

CLAIMS 11-17

Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Purcell. Applicant respectfully submits that claim 11 is patentable over the combination of cited references because the combination does not teach or suggest all of the limitations of the claim. Claim 11 recites:

An interconnect coupled to a plurality of initiator network resources as well as a plurality of target network resources, wherein the interconnect comprises:

a first stage of circuitry to receive incoming transactions from the plurality of initiator network resources;

a second stage of circuitry to pass outgoing transactions to the plurality of target network resources connecting to the interconnect; and
an arbitration controller to arbitrate transactions from the plurality of initiator network resources destined to one or more of the target network resources, wherein the target network resources supply their availability to service a transaction to the arbitration controller, and the arbitration controller to implement an arbitration policy that filters out transactions from an arbitration process those transactions from initiator network resources destined to target network resources that are currently not available to service a transaction.

(Emphasis added).

In support of the rejection, the Office Action states, in part:

In regard to claims 11-12, 20, 25, . . . AAPA do not specifically disclose a first stage of circuitry to receive incoming transactions from the plurality of initiator network resources [or] a second stage of circuitry to pass

outgoing transactions to the plurality of target network resources connecting to the interconnect wherein the target network resources supply their availability to service a transaction to the arbitration controller However Purcell et al. disclose **a first stage of circuitry to receive incoming transactions from the plurality of initiator network resources (see col. 24, lines 23- 64); a second stage of circuitry to pass outgoing transactions to the plurality of target network resources connecting to the interconnect (see col. 24, lines 23-64)** Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Purcell et al. within the system of AAP A because it would **reduce the delay time in processing the transaction requests**.

Office Action, December 16, 2005, p. 5 (sic all) (emphasis added).

Applicant respectfully disagrees with the Office Action's characterization of the prior art because the cited combination of prior art fails to teach or suggest all of the limitations of the claim. In particular, AAPA and Purcell, either alone or in combination, do not teach or suggest a first stage of circuitry and a second stage of circuitry. Additionally, the Office Action fails to provide a motivation to combine the references.

AAPA is taken from the background section of the present application. The Office Action correctly recognizes that AAPA does not teach a first stage of circuitry or a second stage of circuitry, as recited in the claim. Office Action, December 16, 2005, p. 5.

Purcell is directed to interconnecting multiple processors with multiple shared memories. Purcell, col. 1, lines 7-9. A memory controller controls a memory track, which includes multiple memory banks. Purcell, Fig. 17. The memory controller is coupled to the memory banks via a memory bus. Purcell, col. 23, lines 58-67. Although the memory banks may receive individual signals, the memory bus is only capable of transmitting one signal at a time. Purcell, col. 25, lines 10-12. However, as depicted in Figure 17, Purcell does not teach or suggest configuring the memory bus in any way. Purcell merely teaches independently sending signals to the memory banks at different times. One conventional way to achieve this functionality is to simply send the signal to all memory banks at the same time, without regard to which path the signal might actually take because the signal travels along all paths at the same time. Purcell does not disclose another way of sending the signals from the memory controller to the memory banks.

Moreover, the paragraphs cited by the Office Action do not disclose or address configuring the memory bus. Rather, the reference (col. 24, lines 23-64) merely describes

how signals may be interleaved on the memory bus. Purcell, Fig. 18. However, interleaving signals over time is inapposite to a first stage of circuitry or a second stage of circuitry. Therefore, Purcell fails to teach or suggest first and second stages of circuitry.

In contrast, claim 11 recites “a first stage of circuitry to receive incoming transactions from the plurality of initiator network resources” and “a second stage of circuitry to pass outgoing transactions to the plurality of target network resources connecting to the interconnect.” For the reasons stated above, AAPA and Purcell, either alone or in combination, fail to teach or suggest all of the limitations of the claim. In particular, the cited references do not teach or suggest a first stage of circuitry and a second stage of circuitry.

Even if arguendo the combination of cited references were to disclose all of the limitations of the claim, the Office Action does not provide a proper motivation to combine the references. It is improper for the Office Action to use impermissible hindsight in establishing the motivation to combine the references. The Office Action merely purports that the advantage from combining AAPA and Purcell would be to “reduce the delay time in processing the transaction requests.” Office Action, December 16, 2005, p. 3. In fact, the cited prior art does not provide such a motivation. In particular, Purcell is silent as to potentially combining the teachings of Purcell with AAPA or deriving any benefit from such combination. Although the Office Action fails to provide a source for the purported motivation, it appears that the Office Action simply referred to the present application to derive the purported motivation. Given that the Office Action’s reliance on the present application to establish a motivation or suggestion to combine is impermissible, the Office Action fails to provide a proper motivation or suggestion to combine the Purcell and AAPA.

Given that the cited references fail to teach or suggest all of the limitations of the claim, Applicant respectfully submits that claim 11 is patentable over the cited references. Moreover, the claim is patentable over the cited references because there is the Office Action fails to establish a motivation to combine the references. Accordingly, Applicant requests that the rejection of claim 11 under 35 U.S.C. § 103(a) be withdrawn.

Given that claims 12-17 depend from independent claim 11, which is patentable over the cited references, Applicant respectfully submits that dependent claims 12-17 are

also patentable over the cited references. Accordingly, Applicant requests that the rejection of claims 12, 13, and 15-17 under 35 U.S.C. § 103(a) be withdrawn.

CLAIMS 18, 20, AND 22-25

Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Purcell. Applicant respectfully submits that claim 18 is patentable over the combination of cited references because the combination does not teach or suggest all of the limitations of the claim. Claim 18 recites:

An interconnect coupled to a plurality of initiator network resources as well as a plurality of target network resources, wherein the interconnect comprises:

circuitry to receive transactions from the plurality of initiator network resources, wherein the circuitry to receive transactions includes one or more filter units and **one or more splitter units** to configure segmented pathways in the interconnect; and

an arbitration controller to generate control signals for the filter units and the splitter units to configure a connection pathway in the interconnect between a first initiator network resource and a first target network resource, wherein the configured connection pathway to allow an information transfer between the initiator network-resource and the target network-resource while isolating other segments of the pathways in the interconnect not part of the information transfer between the first initiator network resource and the first target network-resource.

(Emphasis added).

In support of the rejection, the Office Action states, in part:

In regard to claim 18, . . . AAPA do not specifically disclose wherein the circuitry to receive transactions includes one or more filter units and one or more splitter units to configure segmented pathways in the interconnect; and an arbitration controller to generate control signals for the filter units and the splitter units to configure a connection pathway in the interconnect However Purcell et al. disclose wherein the circuitry to receive transactions includes one or more filter units and **one or more splitter units (i.e. mux)** to configure segmented pathways in the interconnect (see col. 20, lines 38- 57); and **an arbitration controller to generate control signals for the filter units and the splitter units to configure a connection pathway in the interconnect** Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Purcell et al. within the system of AAPA because it would **reduce the delay time in processing the transaction requests**.

Office Action, December 16, 2005, pp. 6-7 (sic all) (emphasis added).

Applicant respectfully disagrees with the Office Action's characterization of the prior art, as explained above, and submits that the cited combination of prior art fails to teach or suggest all of the limitations of the claim. In particular, AAPA and Purcell, either alone or in combination, do not teach or suggest an arbitration controller to generate control signals for the filter units and the splitter units to configure a connection pathway in the interconnect. Additionally, AAPA and Purcell do not teach one or more splitter units. Additionally, the Office Action fails to provide a motivation to combine the references. Nevertheless, even though the prior art does not teach or suggest all of the limitations of the claim and the Office Action fails to establish a motivation to combine the references, claim 18 is independent of claim 1 and the scope of each of these claims is independent of each other and only determined by the limitations of each claim individually.

In regard to the one or more splitter units, the Office Actions states that muxes are the same as splitters. A multiplexor (mux) receives several inputs and passes one of the several inputs to a single output. A splitter on the other hand takes at last one input and provides two or more outputs. Given the different functionality between a splitter and a mux, the Office Action is incorrect because a mux is different from a splitter. Therefore, Purcell does not teach one or more splitter units.

In contrast, claim 18 recites "one or more splitter units" and "an arbitration controller to generate control signals for the filter units and the splitter units to configure a connection pathway in the interconnect." For the reasons stated above, AAPA and Purcell, either alone or in combination, fail to teach or suggest all of the limitations of the claim. In particular, the cited references do not teach or suggest one or more splitter units and an arbitration controller to generate control signals for the filter units and the splitter units to configure a connection pathway in the interconnect.

Given that the cited references fail to teach or suggest all of the limitations of the claim, Applicant respectfully submits that claim 18 is patentable over the cited references. Moreover, the claim is patentable over the cited references because there is the Office Action fails to establish a motivation to combine the references. Accordingly, Applicant requests that the rejection of claim 18 under 35 U.S.C. § 103(a) be withdrawn.

Given that claims 20-25 depend from independent claim 18, which is patentable over the cited references, Applicant respectfully submits that dependent claims 20-25 are also patentable over the cited references. Accordingly, Applicant requests that the rejection of claims 20 and 22-25 under 35 U.S.C. § 103(a) be withdrawn.

Allowable Claims

Claims 14, 19, and 21 stand objected to as depending from a rejected independent claim, but would be allowable if rewritten in independent form to include all intervening claim limitations. Applicant notes that each of the Examiner's statements of reasons for allowance is to be taken in light of the structure and/or interaction recited in the respective claims. Applicant also notes that the comments in the current Office Action may have paraphrased the language of the claims. It should be understood that the language of the claims themselves sets out the scope of the claims.

CONCLUSION

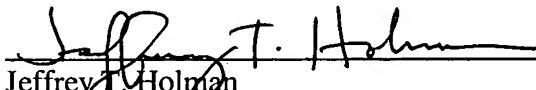
It is respectfully submitted that in view of the amendments and remarks set forth herein, the rejections and objections have been overcome. If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Jeffrey Holman at (408) 720-8300.

If there are any additional charges, please charge them to Deposit Account No. 02-2666.

Respectfully submitted,

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Date: 3/15/06


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